

R E M A R K S

In the Office Action dated July 19, 2006, the Examiner rejected claims 1-4, 16-18, 21 and 22 under 35 USC §102(b) as being anticipated by Zaydel. Claims 1-8 and 16-24 were rejected under 35 USC §103(a) as being unpatentable over Kask in view of Zaydel. Claims 9 and 10 were rejected under 35 USC §103(a) as being unpatentable over Kask in view of Zaydel and further in view of Rapata.

By the present amendment, Applicant has amended claim 1 to clarify the invention claimed, withdrawn claims 11-15 have been cancelled, as have been claims 16-20, and new claims 21-34 have been added.

Applicant respectfully traverses the Examiner's rejection of the claims and contends that each of the claims, at now presented, is patentably distinguishable over the references taken singly or, where permissible, in combination.

With regard to claim 1, which was rejected as being anticipated by Zaydel, and also rejected as being unpatentable over Kask in view of Zaydel, Applicant points to several structural features now more clearly identified in claim 1 which distinguish claim 1 from the teachings of Zaydel or even a combination of Kask and Zaydel. For example, claim 1 specifies an assembly including a tube plug which has a constant diameter and smooth outer surface. Zaydel teaches two different embodiments of a plug 20 and 20'. In FIG. 2, the plug 20 is shown as having a threaded exterior surface on which is received a threaded nut engaged with a minor portion of a length of the plug. Further, at column 3, lines 1-4, Zaydel provides that "the exterior of sidewall 26 of the crown portion is preferably tapered and has an outside diameter next adjacent flange 24 that may be stepped." Thus, in the embodiment of FIG. 2, the exterior surface of the plug has neither a constant diameter nor a smooth outer surface. In the embodiment of FIGS. 3 and 4, the outer surface of the plug is provided with wings or arms 35 which, if utilized

in a tube sealing environment, would provide longitudinal flow paths for fluids to escape from the tube, thus defeating the purpose of the plug. These wings or arms render the outer surface of the plug as non-smooth and, as seen in the side view of FIG. 3, also render the outer surface as having a non-constant diameter. For at least these reasons, Zaydel does not anticipate claim 1.

Claim 1 also specifies that the plug have an axially extending blind hole with a predetermined constant internal diameter extending substantially along an entire length of the hole. Zaydel teaches to provide a blind hole with circumferentially spaced apart gripping ribs or fins 28 that extend radially inward from the wall 26 thus resulting in a hole that does not have a constant internal diameter, but rather has a minor and a major internal diameter. For this additional reason, Zaydel does not anticipate claim 1.

Although the Examiner dismissed the use of the tube plug as being merely an intended use and suggests that the plug of Zaydel is capable of use with tubes as well, this statement is not supported when looking at the actual structure taught by Zaydel. The plug 20 illustrated in FIG. 2 has an external thread which would constitute a leakage flow path for fluids if such a plug were inserted into a tube as a sealing plug. Further, because of the suggested tapered construction of such a plug, a significant portion of the length of the plug would not be in contact with the tube wall, thus severely reducing the potential area where a sealing effect might be achieved. Similarly, and as discussed above, the arrangement of FIGS. 3 and 4 would provide multiple longitudinal flow paths for the leakage of fluid between the plug and a tube if such a plug were to be inserted into a tube. Zaydel, of course, is not concerned with sealing a tube, but rather the plug of Zaydel is used as a fastener receptacle and thus is constructed in a much different fashion with different considerations. Either embodiment of the plug of Zaydel would fail as a sealing plug in an environment of a tube to be sealed.

The patent to Kask is directed to plugging a hole in a relatively thin wall, and is not concerned with plugging a tube. This also leads Kask to provide a much differently configured structure than the structure as specified in claim 1. Specifically, Kask teaches a plug having an outer diameter that is varying in dimension, rather than being constant. Kask specifically intends that the outer diameter of the plug have a bulge which would be captured behind or on the underside of the thin wall to hold the plug in place on the wall due to the very short axial length of engagement between the plug and the wall. Further, the plug of Kask does not have a constant internal diameter extending substantially along an entire length of the hole, but rather has a varying diameter, in particular with a ring 26 extending inwardly to cause a further radial extension of the outwardly flared surface 22 once the insert 30 is introduced into the plug. Such a specific structural arrangement is necessary and desirable for holding the plug on a thin wall, but this is undesirable when holding a plug in a tube.

Since Kask also fails to teach a constant diameter outer surface for the plug and a constant internal diameter for the plug, as specified by claim, a combination of Kask and Zaydel fails to obviate claim 1. For each of these reasons, Applicant respectfully submits that claim 1 and each of its dependent claims 2-8 and 10 are patentable over Zaydel alone or a combination of Kask and Zaydel.

Independent claim 21 defines a tube plug assembly including a tube plug with a smooth outer surface and a blind hole having a predetermined internal constant diameter extending substantially long an entire length of the hole. As pointed out above, Zaydel does not teach or suggest a smooth outer surface or an internal constant diameter of the blind hole. Therefore, Zaydel cannot anticipate claim 21. Also as pointed out above, Kask fails to teach a

predetermined internal constant diameter extending substantially along an entire length of the blind hole and thus a combination of Kask and Zaydel fails to teach at least this limitation of claim 21 and thus cannot obviate claim 21. Therefore, Applicant respectfully submits that claim 21 and its dependent claims 22-24 are allowable.

New claim 25 is directed to a sealed tube and includes a tube having an interior passage with a constant predetermined diameter leading to an open end. Neither Zaydel nor Kask teaches or suggests such a tube. In fact, both Kask and Zaydel are directed to using a plug in an opening in a thin wall rather than being inserted into an end of a tube. Claim 25 does specify that the sealed tube includes a tube plug with a rounded front end inserted into the open end of the tube and within an exterior surface engaged with the interior passage of the tube along substantially an entire length of the exterior surface. Such an arrangement is not taught or suggested by either Zaydel or Kask and therefore even a combination of the teachings of those two references fails to suggest such a construction. For at least these reasons, Applicant respectfully submits that new claim 25 and its dependent claims 26-34 are allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that each of the claims of the application is patentably distinguishable over the references relied on

by the Examiner and Applicant respectfully requests the Examiner to indicate all claims as allowable and to pass the application to issue.

Respectfully submitted,



Kevin W. Guynn (Reg. No. 29,927)
GREER, BURNS & CRAIN, LTD
Customer Account No. 24978
300 S. Wacker Drive , Suite 2500
Chicago, Illinois 60606-6771
Telephone (312) 987-2187
Attorneys for Applicant

GREER, BURNS & CRAIN, LTD
300 S. Wacker Drive
Chicago, Illinois 60606-6771
(312) 987-2187

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